

**ABSTRACT OF THE DISCLOSURE**

Presented is a communications protocol for use by interconnected hazardous condition detectors, such as smoke and carbon monoxide detectors for use in dwellings and other structures. This communications protocol provides conventional signaling to indicate the presence of a smoke condition necessitating the generation of a smoke temporal pattern by all interconnected detectors. The protocol further defines a signaling method by which conventional smoke detectors that are incapable of providing temporal patterns other than that required for a smoke alarm condition will not be sent into an alarm mode of operation upon receipt of a signal other than the conventional smoke alarm signal. This communications protocol defines a pulsed signal to indicate a non-smoke alarm condition that is of a duration that will not trigger the conventional smoke alarms. To allow for the transmission of multiple hazardous conditions alarm notifications, as well as the transmission of additional hazardous condition detector control signals, the communications protocol utilizes a multi-bit signal transmitted via the conventional single signal I/O wire of currently existing interconnect wiring. Through the use of an 8 bit alarm signal, multiple hazardous conditions may be signaled as well as operating modes such as test, hush, reset, low battery, etc. Also presented are smoke, carbon monoxide, and combination hazardous condition detectors that utilize the communications protocol presented herein.

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